

## REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed September 9, 2003. Reconsideration and allowance of the application and presently pending claims 1-109 are respectfully requested.

A. Present Status of Patent Application

Upon entry of the amendments in this response, claims 1-109 remain pending in the present application. More specifically claims 95-99 are directly amended. These amendments are specifically described hereinafter. It is believed that the foregoing amendments add no new matter to the present application.

B. Indication of Allowable Subject Matter

Applicants appreciate the Examiner's indication in the Office Action that claims 1-37 are allowable. Applicants also acknowledge the Examiner's conclusion that the subject matter of claims 101, 103 and 105 is allowable, as noted in paragraph 3 of the Office Action. However, Applicants have not amended these claims 101, 103 or 105 in this response because the Applicants believe, for the reasons detailed below, that the parent claims from which claims 101, 103 and 105 depend are allowable.

C. Response to Rejection of Claims 38-100, 102, 104 and 106-109 Under 35 U.S.C. §251

In the Office Action, claims 38-100, 102, 104 and 106-109 stand rejected under 35 U.S.C. §251 as allegedly being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based.

1. Allegation that "Re-written" Limitation is Impermissibly Recaptured

In the Office Action, claims 38-94, 95-99 and 107-109 are rejected in part under an allegation that these claims "do not include the precise key limitations 'rewritten' ...". Applicants respectfully traverse the rejection of these claims under the allegation that these claims fail to contain the "re-written" limitation.

The Examiner is respectfully referred to MPEP §706.02(I)(1), repeated below for convenience, which states that:

For reissue applications, the doctrine of recapture may prevent the presentation of claims that were cancelled or amended to overcome such prior art applied in the application which matured into the patent for which reissue is being sought. The recapture doctrine prevents the presentation of claims in reissue applications that were amended or cancelled from the application which matured into the patent for which reissue is being sought, if the claims were amended or cancelled to distinguish the claimed invention from 35 U.S.C. 102(3)/103 prior art which was commonly owned or assigned at the time the invention was made.

Applicants respectfully assert that the recapture rule in a reissue application does not apply to the "re-written" limitation for the following two reasons. First, this limitation was not surrendered in all claims during prosecution of the parent application. Second, this limitation was not argued as a limitation necessary to overcome any rejections under 35 U.S.C. §102 or §103 during prosecution of the parent application.

Applicants note that the "re-written" limitation was added only into claim 1 by amendment, and was included in the new claim 35, during prosecution of the patent case (see Applicants' Response to the Office Action mailed December 11, 1998). The "re-written" limitation was not added into independent claims 10, 24, 36 or 37. Since claims 10, 24, 36 or 37 do not contain the "re-written" limitation, this subject matter was not "surrendered" within the meaning of the 35 U.S.C. §251 recapture provisions. The "re-written" limitation was merely added to distinguish between permissible sub-species.

During prosecution of the parent application, the originally filed claims 1-31 were rejected under 35 U.S.C. §102(b) as anticipated by *Rijnsburger*, under 35 U.S.C. §102(b) as anticipated by *Maeda et al.*, and under 35 U.S.C. §102(e) as anticipated by *Carasso et al.* In the Applicants' response, the "re-written" limitation was not argued as a novel feature necessary to overcome the 35 U.S.C. §102 rejections based upon any of the cited art references. Nor was the "re-written limitation" added into independent claims 10, 24, 36 or 37 to overcome the rejection based upon prior art.

Since the "re-written" limitation was not surrendered during prosecution of the parent application, and since the "re-written" limitation was not argued as a limitation necessary to overcome any rejections under 35 U.S.C. §102 or §103 during prosecution of the parent application, Applicants respectfully request that the rejection of claims 38-94, 95-99 and 107-109 based upon the allegation that these claims do not include the precise key limitation "rewritten" be withdrawn.

2. Prosecution History of the Parent Application

a. First Species of the Invention (Parent Application Claims 1-34)

During prosecution of the parent application, Applicants argued that the “Applicants believe the invention to be patentable over *Rijnsburger*” since *Rijnsburger* did not teach, disclose or suggest the feature of “the *reference clock structure* permitting the generation of a clock reference signal which controls where **first and second transition edges** of data marks are written to the recording layer with **sub-bit accuracy**” as recited in claim 1 (emphasis added), the feature of “a *write clock* which determines the placement of **first and second transition edges** of data marks on the recording layer of the optical disk with **sub-bit accuracy**” as recited in claim 10 (emphasis added), or the feature of “a *write clock* which determines the physical placement of **first and second transition edges** of data marks written on the recording layer of the optical disk with **sub-bit accuracy**” as recited in claim 24 (emphasis added).

As is apparent from the amendments made by the Applicants during prosecution of the parent application, the features of “first and second transition edges” and “sub-bit accuracy” define an allowable first species of the invention. The “write clock” defines an allowable sub-species of the first species of the invention. The “reference clock structure” defines another allowable sub-species of the first species of the invention.

Applicants further argued that the “Applicants believe the invention to be patentable over Maeda” since *Maeda* did not teach, disclose or suggest the above-described features of the first species of the invention. Applicants did not argue that the above-described features of the first species of the invention were necessary to overcome rejections based upon *Carasso*.

b. Second Species of the Invention (Parent Application Claims 35-37)

During the prosecution of the parent application, Applicants added independent claims 35, 36 and 37 which permissibly defined an allowable second species of the invention. Claim 35 recited the limitation of a “frequency spectrum in which the *clock reference signal frequency* is within **fundamental frequency components of the frequency spectrum**” (emphasis added). Claims 35 and 36 recited the limitation of a “means for recording data marks on the recording layer of the optical disk, wherein the *data marks* are recorded to include **fundamental spatial frequencies less than a predetermined spatial frequency**”

(emphasis added). The features of claims 35, 36 and 37 were argued as overcoming any disclosure, teaching or suggestion of *Carasso*.

Since independent claims 35, 36 and 37 were allowed over *Rijnsburger*, *Maeda* and *Carasso*, claims 35, 36 and 37 permissibly define the second species of the invention. The limitation of a “write clock” defines an allowable sub-species of the second species of the invention. The “clock signal reference frequency” defines an allowable sub-species of the second species of the invention. The “data mark” defines another allowable sub-species of the second species of the invention.

3. Allegation that “Re-written” Limitation is Impermissibly Recaptured

In the Office Action, claims 38-94, 100, 102, 104 and 106 are rejected in part under an allegation that these claims “do not include the precise key limitations ... ‘the reference clock structure permitting the generation of a clock reference signal which controls where first and second transition edges of data marks are written to the recording layer with sub-bit accuracy.’” Claims 95-99 and 107-109 are rejected in part under an allegation that these claims “do not include the precise key limitations ... ‘data signal having a frequency spectrum in which the clock reference signal frequency is within fundamental frequency component of the frequency spectrum.’” Applicants respectfully traverse the rejection of these claims under the above-described allegations for the following reasons.

a. Rejection of Claims 38-47, 56-78, 100, 104 and 106

Independent claims 38, 56 and 57 recite the feature of a “*clock reference structure having a spatial frequency that is within the spatial frequency spectrum of the data*” (emphasis added). Independent claim 64 recites the feature of a “*clock reference structure has a spatial frequency that is within the spatial frequency spectrum of the data*” (emphasis added). Applicants believe that the above-described limitations are a permissible recitation of the key limitation that defines the above-described second species. Furthermore, Applicants believe that the limitation of a “clock reference structure” permissibly defines a sub-species of the second species in claims 38, 56, 57 and 64.

The Office Action alleges that independent claims 38, 56, 57 and 64 are not allowable since claims 38, 56, 57 and 64 do not “include the precise key limitations ... ‘the reference clock structure permitting the generation of a clock reference signal which controls where first and second transition edges of data marks are written to the recording layer with sub-bit accuracy.’” Applicants respectfully point out that this is the limitation that defines the above-

described first species. Applicants have chosen to define claims 38, 56, 57 and 64 to be members of the above-described second species. Since claims 38, 56, 57 and 64 are members of the above-described second species, and because the above-recited limitation permissibly defines the key limitation of the second species, Applicants believe that claims 38, 56, 57 and 64 are allowable in their present form. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 38, 56, 57 and 64.

Because independent claim 38 is allowable, dependent claims 39-47 and 100 (which depend from independent claim 38) are allowable as a matter of law for at least the reason that these dependent claims 39-47 and 100 contain all features/elements of independent claim 38. Similarly, because independent claim 57 is allowable, dependent claims 58-61, 104 and 106 (which depend from independent claim 57) are allowable as a matter of law for at least the reason that these dependent claims 58-61, 104 and 106 contain all features/elements of independent claim 57. Also, because independent claim 64 is allowable, dependent claims 65-80 (which depend from independent claim 64) are allowable as a matter of law for at least the reason that these dependent claims 65-80 contain all features/elements of independent claim 64. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Accordingly, the rejection to these claims should be withdrawn.

b. Rejection of Claims 48-55 and 102

Independent claim 48 recites the feature of a “*clock reference means having a **spatial frequency that is within the spatial frequency spectrum of the data***” (emphasis added). Applicants believe that the above-described limitation is a permissible recitation of the key limitation that defines the above-described second species. Furthermore, Applicants believe that the limitation of a “clock reference means” permissibly defines a sub-species of the second species.

The Office Action alleges that independent claim 48 is not allowable since claim 48 does not “include the precise key limitations ... ‘the reference clock structure permitting the generation of a clock reference signal which controls where first and second transition edges of data marks are written to the recording layer with sub-bit accuracy.’” Applicants respectfully point out that this is the limitation that defines the above-described first species. Applicants have chosen to define claim 48 to be a member of the above-described second species. Since claim 48 is a member of the above-described second species, and because the above-recited limitation permissibly defines the key limitation of the second species,

Applicants believe that claim 48 is allowable in its present form. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 48.

Because independent claim 48 is allowable, dependent claims 49-55 and 102 (which depend from independent claim 48) are allowable as a matter of law for at least the reason that these dependent claims 49-55 and 102 contain all features/elements of independent claim 48. See, *e.g.*, *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Accordingly, the rejection to these claims should be withdrawn.

c. Rejection of Claims 81-94

Independent claim 81 recites the feature of a “*means for writing data* upon the servo track based upon the clock reference signal so that the **spatial frequency spectrum of the data overlaps the spatial frequency of the clock reference means**” (emphasis added). Independent claim 88 recites the feature of “*writing data* having data fields of indeterminate length on the recording layer based upon the clock reference signal, the **spatial frequency spectrum of the data overlapping the spatial frequency of the clock reference structure**” (emphasis added). Applicants believe that the above-described limitations are a permissible recitation of the key limitation that defines the above-described second species. Furthermore, Applicants believe that the limitation of a “means for writing data” permissibly defines a sub-species of the second species in claim 81. Applicants also believe that the limitation of “writing data” permissibly defines a sub-species of the second species in claim 88.

The Office Action alleges that independent claims 81 and 88 are not allowable since claims 81 and 88 do not “include the precise key limitations ... ‘the reference clock structure permitting the generation of a clock reference signal which controls where first and second transition edges of data marks are written to the recording layer with sub-bit accuracy.’” Applicants respectfully point out that this is the limitation that defines the above-described first species. Applicants have chosen to define claims 81 and 88 to be members of the above-described second species. Since claims 81 and 88 are members of the above-described second species, and because the above-recited limitation permissibly defines the key limitation of the second species, Applicants believe that claims 81 and 88 are allowable in their present form. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 81 and 88.

Because independent claim 81 is allowable, dependent claims 82-87 (which depend from independent claim 81) are allowable as a matter of law for at least the reason that these dependent claims 82-87 contain all features/elements of independent claim 81. Similarly,

because independent claim 88 is allowable, dependent claims 89-94 (which depend from independent claim 88) are allowable as a matter of law for at least the reason that these dependent claims 89-94 contain all features/elements of independent claim 88. See, *e.g.*, *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Accordingly, the rejection to these claims should be withdrawn.

d. Rejection of Claims 95, 96, 107 and 108

Independent claim 95, as amended, recites the feature of a “clock reference signal which controls where **first and second transition edges** of data marks are recorded for the *writing* of the data with **sub-bit accuracy**” (emphasis added). Independent claim 96, as amended, recites the feature of “clock reference signal which controls where **first and second transition edges** of data marks are recorded for *writing* data with **sub-bit accuracy**” (emphasis added). Applicants believe that the above-described limitations are a permissible recitation of the key limitation that defines the above-described first species. Furthermore, Applicants believe that the limitation of a “writing” permissibly defines a sub-species of the first species in claims 95 and 96.

The Office Action alleges that independent claims 95 and 96 are not allowable since claims 95 and 96 do not “include the precise key limitations ... ‘the reference clock structure permitting the generation of a clock reference signal which controls where first and second transition edges of data marks are written to the recording layer with sub-bit accuracy.’” Applicants respectfully point out that this is the limitation that defines the above-described first species. Applicants have chosen to define claims 95 and 96 to be members of the above-described first species. Since Applicants have amended claims 95 and 96 to be members of the above-described first species, and because the above-recited limitation permissibly defines the key limitation of the first species, Applicants believe that amended claims 95 and 96 are allowable. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 95 and 96.

Because independent claims 95 and 96 are allowable, dependent claims 107 and 108 (which depend from independent claims 95 and 96, respectively) are allowable as a matter of law for at least the reason that these dependent claims 107 and 108 contain all features/elements of independent claims 95 and 96, respectively. See, *e.g.*, *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Accordingly, the rejection to these claims should be withdrawn.

e. Rejection of Claims 97-99 and 109

Independent claims 97-99, as amended, recite the feature of a “*clock reference signal* ... which controls where **first and second transition edges** of data marks are recorded for the writing of the data with **sub-bit accuracy**” (emphasis added). Applicants believe that the above-described limitations are a permissible recitation of the key limitation that defines the above-described first species. Furthermore, Applicants believe that the limitation of a “clock reference signal” permissibly defines a sub-species of the first species in claims 97-99.

The Office Action alleges that independent claims 97-99 are not allowable since claims 97-99 do not “do not include the precise key limitations ... ‘data signal having a frequency spectrum in which the clock reference signal frequency is within fundamental frequency component of the frequency spectrum.’” Applicants respectfully point out that this is the limitation that defines the above-described second species. Applicants have chosen to define claims 97-99 to be members of the above-described first species. Since Applicants have amended claims 97-99 to be members of the above-described first species, and because the above-recited limitation permissibly defines the key limitation of the first species, Applicants believe that amended claims 97-99 are allowable. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 97-99.

Because independent claim 97 is allowable, dependent claim 109 (which depends from independent claim 97) is allowable as a matter of law for at least the reason that this dependent claim 109 contains all features/elements of independent claim 97. See, *e.g.*, *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Accordingly, the rejection to this claim should be withdrawn.



**CONCLUSION**

In light of the foregoing amendments and for at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1-109 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned agent at (770) 933-9500.

Respectfully submitted,



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